

**What is claimed is:**

1. A method of producing stabilized organic pigment particles,  
said method comprising:
  - 5 surface modifying organic pigment particles;  
contacting said surface modified particles with an aqueous  
vapor entrained in a carrier gas to produce said stabilized organic pigment  
particles.
- 10 2. The method of claim 1 wherein stabilized organic pigment  
particles have a surface oxygen to carbon ratio of about 0.05 to 1.
3. The method of claim 1 wherein said carrier gas is argon,  
nitrogen, helium, neon, carbon dioxide, air or a mixture thereof.
- 15 4. The method of claim 1, 2 or 3 wherein weight of said  
aqueous vapor entrained in said carrier gas ranges from 10 to 500  
micrograms per square meter of pigment surface area.
- 20 5. The method of claim 1 wherein said contacting step is  
accompanied by deagglomeration of said surface modified particles to  
increase exposure of said surface modified particles to said aqueous  
vapor.
- 25 6. The method of claim 1, 2, 3 or 5 wherein surface pH of said  
stabilized particles is 0.1 to 8.
7. The method of claim 1 wherein said particles are surface  
modified by exposing surfaces of said particles to a plasma-activated  
30 process gas.
8. The process of claim 6 wherein said process gas is selected  
from the group consisting of oxygen, nitrogen, water vapor, hydrogen  
peroxide, carbon dioxide, ammonia, ozone, carbon monoxide,  
35 trimethylsilane, tetraethoxysilane, hexamethyldisiloxane, ethylene diamine,

maleic anhydride, arylamine, acetylene, methane, ethylene oxide, hydrogen, styrene, air, sulfur dioxide, sulfonyl precursors, phosphonyl precursors, alcohols, and a mixture thereof.

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9. The method of claim 1 wherein said particles are surface modified by exposing surfaces of said particles to ozone.

10. The method of claim 1 wherein said organic particles  
10 comprise carbon black, diketo-pyrrolopyrrole red pigment, perylene maroon pigment, polybutadiene, polychloroprene, polyethylene, polypropylene, polyacrylonitrile, polymethacrylic acid, polyvinyl acetate, polyvinyl chloride, cellulose, copper phthalocyanine blue pigment 15:2,3,4, polychloro copper phthalocyanine, C.I. pigment green 7, quinacridone red  
15 pigment, quinacridone violet, copper phthalocyanine blue, C.I. Pigment Yellow-17, C.I. Pigment Yellow-74, C.I. Pigment Yellow-83, C.I. Pigment Yellow-95, C.I. Pigment Yellow-128, C.I. Pigment Yellow-151 or C.I. Pigment Yellow-154.

20 11. Stabilized organic pigment particles produced in accordance with the method of claim 1.

12. Ink jet ink composition comprising stabilized organic pigment particles produced in accordance with the method of claim 1.

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13. A coating composition comprising stabilized organic pigment particles produced in accordance with the method of claim 1.

14. A device for producing stabilized organic pigment particles  
30 comprising:

a reactor,

means for introducing in said reactor aqueous vapor entrained in a carrier gas; and

an agitator assembly for deagglomerating said pigment  
35 particles placed in said reactor.

15. The device of claim 14 further comprises means for supplying ozone to said reactor.

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16. The device of claim 14 or 15 wherein said agitator assembly comprises:

a plurality of vanes mounted on a flange rotatably positioned in said reactor, each said vane having a coil affixed thereto such that said coils physically contact an inner wall of said reactor.

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17. The device of claim 14 or 15 wherein said means for introducing in said reactor aqueous vapor entrained in a carrier gas comprise a lance having an opening positioned distally from an exhaust end of said reactor to increase dwell time of aqueous vapor inside said reactor.

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